Operating Expense Study Sponsored by the Nebraska Rural Independent Companies and Telergee Alliance of Certified Public Accounting Firms

Predicting the Operating Expenses of Rate-of-Return Telecommunications Companies

May 2011

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I.   The Task

In response to the Federal Communications Commission's (Commission) request for data on operating expenses,[1] the Nebraska Rural Independent Companies (Nebraska Companies)[2] undertook a statistical study designed to predict operating expenses of rate-of-return companies that operate voice and broadband-capable networks in rural areas. The Nebraska Companies undertook the analysis in a manner consistent with the study on capital expenditures of rural companies filed in January 2011.[3] The goal of both analyses is to provide the Commission and other policy makers with data and methodologies that can be used to ensure that rate-of-return companies are utilizing federal universal service funding (USF) in an efficient manner. The Nebraska Companies strongly believe that if comparable and affordable broadband services are to be deployed and maintained in rural areas, rate-of-return regulation must be maintained for most companies currently under that regulatory regime.

Six of the certified public accounting firms[4] that participate in the annual Telergee Benchmarking Study provided the operating expense data utilized in this project. Financial and operating data used in this analysis were from the 2009 Telergee Survey (the Telergee Survey).[5] The relevant expense data and information from companies participating in the Telergee Survey were analyzed in a variety of ways with the goal of producing a statistically reliable predictor of operating expenses of rate-of-return companies.

Analysis of the data and development of the regression equation was conducted by Consortia Consulting, Inc. of Lincoln, Nebraska (Consortia Consulting).[6] Vantage Point

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[1] After the presentation of the Capital Expenditure Study by the Nebraska Companies to the Commission on January 6, 2011, the Commission Staff asked the Nebraska Companies to commence a similar regression analysis on the operating expenses of rate-of-return companies.

[2] The Nebraska Rural Independent Companies are comprised of the following: Arlington Telephone Company, The Blair Telephone Company, Cambridge Telephone Company, Clarks Telecommunications Co., Consolidated Telephone Company, Consolidated Telco, Inc., Consolidated Telecom, Inc., The Curtis Telephone Company, Eastern Nebraska Telephone Company, Great Plains Communications, Inc., Hamilton Telephone Company, Hartington Telecommunications Co., Inc., Hershey Cooperative Telephone Co., K. & M. Telephone Company, Inc., The Nebraska Central Telephone Company, Northeast Nebraska Telephone Company, Rock County Telephone Company, Stanton Telecom Inc., and Three River Telco.

[3] *Predicting the Cost of Fiber to the Premise*, Nebraska Rural Independent Companies' Capital Expenditure Study, ex parte filed January 7, 2011. *In the Matter of Connect America Fund*, WC Docket No. 10-90. *A National Broadband Plan for Our Future*, GN Docket No. 09-51, and *High-Cost Universal Service Support*, WC Docket No. 05-337.

[4] Telergee Alliance firms include Barry, Dunn, McNeil & Parker, Bolinger, Segars, Gilbert & Moss LLP; Jackson Thornton; Kiesling Associates LLP; Moss Adams LLP; Olsen Thielen & Co., Ltd.; and Turlington and Company LLP.

[5] Gregg Amend of Moss Adams LLP, Spokane, Washington, was coordinator of the provisioning and processing of the Telergee Alliance firms' data for this filing.

[6] Edit Kranner consulted for Consortia Consulting.

Solutions Inc. of Mitchell, South Dakota (VPS),[7] and Reynolds Schultheis Consulting Co. of Hudson, Ohio (Reynolds Schultheis),[8] provided additional guidance regarding the project.

II.   The Cost Data

The project began with determination by representatives of Telergee, the Nebraska Companies, Consortia Consulting, Reynolds Schultheis and VPS regarding the nature of the data from the Telergee survey that would be useful in the project.

A. Participating Rural Companies in the Study

The Telergee benchmarking survey of rural telecommunications companies has been collected annually since 2002.[9] The number of companies and accounting firms participating in the Telergee survey has increased steadily over time. In 2009, 221 companies participated in the Telergee survey. In the future, data from other Telergee survey years and other sources can be used to refine the study conducted and improve the results obtained in this project. Such refinements might include the following: Utilizing 2011 survey data when it becomes available, securing data from additional rural companies, performing a time series analysis of the data and expanding the data included in the survey to include middle-mile costs.

Upon learning of the Commission's interest in analyzing rate-of-return carriers' data, the Nebraska Companies contacted Moss Adams LLP to determine if there would be interest in the project. Moss Adams coordinated with Telergee firms and received agreement that seven firms would seek approval from individual companies to utilize their data. In order to honor confidentiality considerations, it was agreed that no individual company would be identified. In total, 166 rural companies participating in the Telergee study and 12 of the Nebraska companies agreed to allow their data to be included. In order to improve geographic representation, six additional companies, which were not included in the original Telergee study, also agreed to provide data, making the total sample size 184 rural companies. Table 1 summarizes the geographic distribution of the Telergee and other companies participating in this analysis.

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[7] Larry Thompson consulted for VPS.

[8] Scott Schultheis consulted for Reynolds Schultheis.

[9] For information on the Telergee Alliance, see www.telergee.com. Appendix I is the Executive Summary of the Telergee Survey that was released in 2010.

Table 1. Geographic Distribution of Telergee Survey

Geographic Area	Count of Sample Companies	Distribution of Sample Companies	Distribution of All Rural Companies
Midwest – Ohio, Michigan, Indiana, Wisconsin, Illinois, Minnesota, Iowa, part of Missouri, North Dakota, South Dakota, Kansas, Nebraska, eastern Colorado	123	67%	51%
West – Western Colorado, Wyoming, Montana, Utah, California, Nevada, Idaho, Oregon, Washington, Alaska, Hawaii	33	18%	13%
Southwest- Western Texas, part of Oklahoma, New Mexico, Arizona, Nevada	9	5%	2%
South- Virginia, West Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Arkansas, Louisiana, part of Missouri, Texas, Oklahoma	14	8%	26%
Northeast- Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, Washington DC, Maryland	5	3%	8%
Total	184		

The geographic areas identified in Table 1 are organized based on the states in which Telergee firms provide services. The participating companies include representation from all regions of the country, although the sample is under-represented in the south. If additional data from companies located in this region could be secured, the sample would better represent the population of all rural, rate-of-return companies. But this does not diminish the credibility of the results, as the sample size is large enough and the overall geographic distribution is sufficient to provide valid results.

B. Data Available from the Telergee Survey

Because member companies rely on the Telergee survey as a management tool, the survey produces a vast amount of data on regulated and non-regulated operations. For purposes of this study, the following categories of data from the Telergee survey were gathered and analyzed for each company:

- Geographic data
  - o Includes geographic region and state where the company is located, square miles served and number of exchanges.
- Plant data
  - o Remaining life of wireline plant, net regulated wireline plant and net non-regulated plant.
- Customer and employee counts

- o Employees by job type, broadband customers, ILEC access lines and CLEC access lines.
- Revenues
  - o Wireline operating revenues and non-regulated Internet revenues.
- Expenses
  - o Plant-specific and plant non-specific expenses, customer expenses, corporate expenses, and property and other taxes.

C. Range of Company Size and Density

The participating companies from the Telergee survey comprise a representative sample of rate-of-return companies based on company size and density. Table 2 provides a range of participating company sizes and density, including minimum and maximum, sample average size and density per company.

Table 2. Range of Company Size and Density[10]

Company Size (Access Lines)	Companies
Under 1,500	57
1,500 – 5,999	81
6,000 and over	46
Minimum: 176 Maximum: 49,842	Average: 5,682
Density (Access Lines per Square Mile)	**Companies**
Under 3	32
3 to 4.9	13
5 to 9.9	51
10 to 19.9	26
20 and over	36
Minimum: 0.12 Maximum: 979	Average: 21.66

The average company size, as measured by the number of access lines, was 5,682, with 176 lines being the smallest company and 49,842 being the largest company. The density of the area served range from 0.12 lines per square mile to 979 lines per square mile. The average density was 21.66 lines per square mile. Thus, the data included a variety of company sizes, as well as both sparsely populated and densely populated companies.

D. "Middle-Mile" Expenses Were Not Available

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[10] The number of companies listed is less than the total sample size of 184 due to incomplete data.

A significant and necessary expense for provision of broadband service by rural carriers that was not available from the Telergee data is the cost of "middle-mile" and "backbone" services. Most rural companies must pay middle-mile and backbone expenses in order to transport Internet traffic from their broadband subscribers to centralized Internet connection points. In many parts of the country, rural carriers' service areas are located hundreds of miles from the nearest Internet connection point: thus expensive middle-mile connections are required. Furthermore, because rural companies have increasingly attempted to meet their customers' demands for greater bandwidth and speeds, middle-mile and backbone costs per-customer have grown substantially over the past several years.

To portray a complete picture of total broadband expenses, it will ultimately be necessary to include middle-mile and backbone costs. A fixed amount of such costs per customer cannot reflect the geographical differences in costs of middle-mile connections across the country. Since these services are unregulated and subject to non-disclosure agreements, determination of costs for purposes of this analysis was not possible. The Nebraska Companies and Telergee firms recommend that the Commission ultimately permit rate-of-return companies to submit middle-mile and backbone expenses for USF reimbursement when a broadband-specific Connect America Fund is established.

III. Determining the Dependent and Independent Variables

A. The Dependent Variable

Given the task of producing a statistically reliable predictor of rate-of-return carriers' operating expenses, the dependent variable was determined to be Average Annual Operating Expenses per Connection in thousands of dollars. Included in Operating Expenses are Plant-Specific Expenses, Non-Plant-Specific Expenses excluding depreciation, Customer Expenses, Corporate Expenses and Property Taxes. The sum of access lines and broadband customers was used to represent connections in the dependent variable, Operating Expenses per Connection. Both access lines and number of broadband customers were included as the analysis sought to establish operating expenses of rate-of-return companies in provisioning both voice and broadband services, as both would ultimately be included in the definition of a supported service. Ideally, the number of household locations would be a better choice for a connection variable because in many cases customers separately subscribe to both a broadband service and a voice service, so the sum of access lines and broadband customers overstates the number of connections. Assuming that access lines more closely relate to the number of connections, rather than the sum of access lines plus broadband customers, another dependent variable – Operating Expenses per Access Line – was also tested but was not found to be as significantly related to the independent variables as Operating Expenses per Connection.

B. The Independent Variables

After establishing the dependent variable, Consortia Consulting plotted a variety of independent variables, against the dependent variable in order to make an initial determination of the relationships between these variables that should be expected when the regression analysis

was ultimately run. The following four independent variables were found to be significant: customer density, company location, company size, and economies of scale.

1. Customer Density

Annual operating expenses per connection were found to be inversely related to a company's density as measured by access lines per square mile. In other words, the less dense a company's service territory was, the greater was its operating expense per connection. This finding indicates that a portion of operating expenses is dictated by the company's service area. Table 3 contains the average annual operating expense per connection across five ranges of density.

Table 3. Average Annual Operating Expenses per Connection are Inversely Related to Density

Density	Annual Operating Expense per Connection
Under 3	1,084
3 to 4.9	724
5 to 9.9	542
10 to 19.9	434
20 & above	588
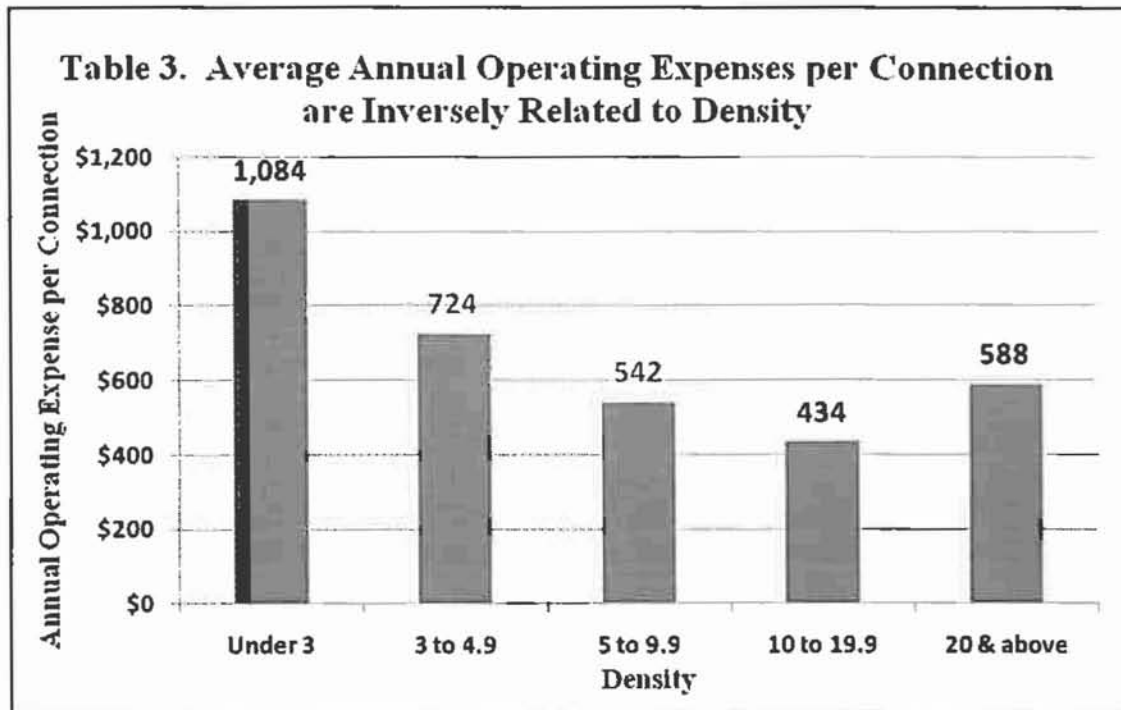
As Table 3 demonstrates, there are significant differences in operating expenses among sample rate-of-return companies based upon a company's customer density. For companies with densities of fewer than three access lines per square mile, average annual operating expenses per connection were about double that of companies with densities between five and ten access lines per square mile. Further, expenses in the least dense category (fewer than three customers per square mile) were about 50 percent more than expenses for the next category of companies with densities between three and five access lines per square mile. As with any of these categories, there is considerable variability in individual companies' data. In this least-dense category, though, the variability is significant, from $386 to $3,208 per connection. Other categories had less variation. Interestingly, while expenses per connection generally decreased as densities increased, expenses per connection in the most densely populated companies (with densities of 20 access lines or more per square mile) were noticeably higher than in the category with

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densities between ten and 20 access lines per square mile. This unexpected result indicates that further analysis of cost-related factors is necessary.

2. Company Location

Another variable found important to a company's operating expense per connection was its location. Participating companies were categorized into one of five geographic regions based upon the Telergee study regions. Operating expense per connection varied widely based on the location of the company. Table 4 provides the average expense per connection by region as well as how the regional average compares to the overall sample average.

Table 4. Cost is Strongly Related to Location[11]

Region	Count of Companies Included	Average Annual Operating Expense per Connection	Regional Percentage of Overall Average Cost
Midwest	116	$538.18	84%
West	27	$1,047.73	164%
Southwest	6	$1,043.41	163%
South	10	$437.28	68%
Northeast	5	$726.08	113%
Overall Average	164	$640.13	100%

The region in which a company is placed for purposes of the Telergee study does not necessarily mean that all companies in the region have similar operating characteristics or costs. Therefore, the region variable was further refined to identify the state in which the company was located. Identification of the state allowed testing of variables that capture cost of living differences such as housing, energy and food. The following state-specific variables from public sources were tested as independent variables in the regression:
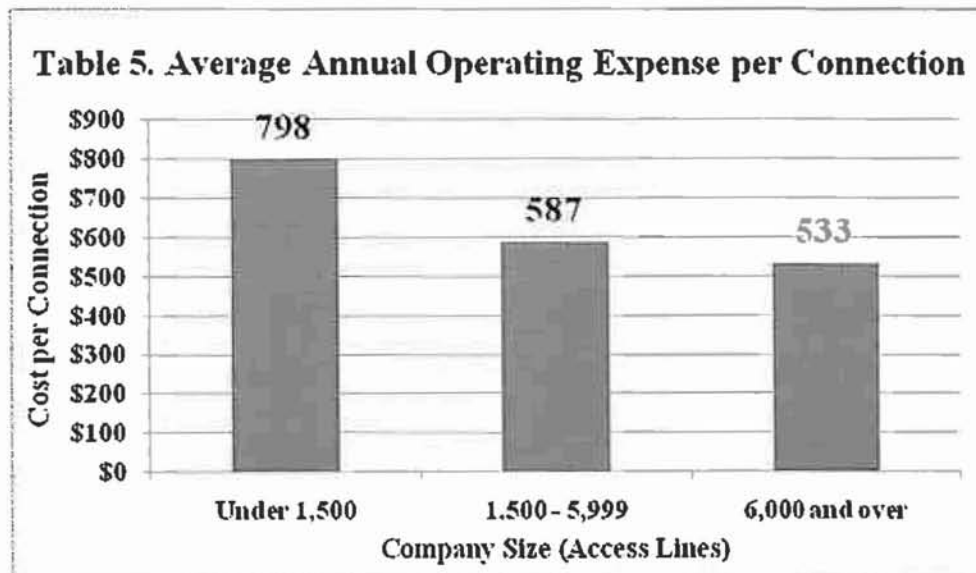
- **Median Hourly Wages by State for May 2009**—Source: Bureau of Labor Statistics, State Occupational Employment and Wage Estimates

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[11] The number of companies listed is less than the total sample size of 184 due to incomplete data.

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- **Mean Annual Wages by State for May 2009**—Source: Bureau of Labor Statistics, State Occupational Employment and Wage Estimates
- **Median Value of Owner Occupied Housing Units for 2000 and 2005**—Source: Census Bureau. (Data that is more recent is significantly influenced by the nationwide housing crisis, so it was not tested.)
- **State and Local Tax Burden per Capita for Fiscal Year 2009**—Source: Tax Foundation "2011 Facts and Figures. How Does Your State Compare?"
- **State Average Population Density**—Source: 2010 Census
- **Federal Highway Miles per Capita**—Source: Federal Highway Administration and 2010 Census

3. Company Size

Operating expenses per connection was also found to be negatively related to company size as measured by the number of access lines. As company size increases, economies of scale result in lower operating expenses per connection. For companies smaller than 1,500 lines, annual operating expenses per connection were more than $200 per connection higher than for the next size category. Once companies reached 1,500 lines, the operating expense per connection did not markedly decrease and no significant differences in operating expenses per connection were found among companies with more than 6,000 lines. Table 5 shows the average operating expense based on company size.

Table 5. Average Annual Operating Expense per Connection

Company Size (Access Lines)	Cost per Connection
Under 1,500	798
1,500 - 5,999	587
6,000 and over	533

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4. Relative Employee Count

Another variable related to economies of scale, relative employee count as measured by employees per 1,000 connections, had a strong positive relationship to the dependent variable. Table 6 shows how relative employee count relates to operating expenses per connection.

Table 6. Employees per 1000 Connections
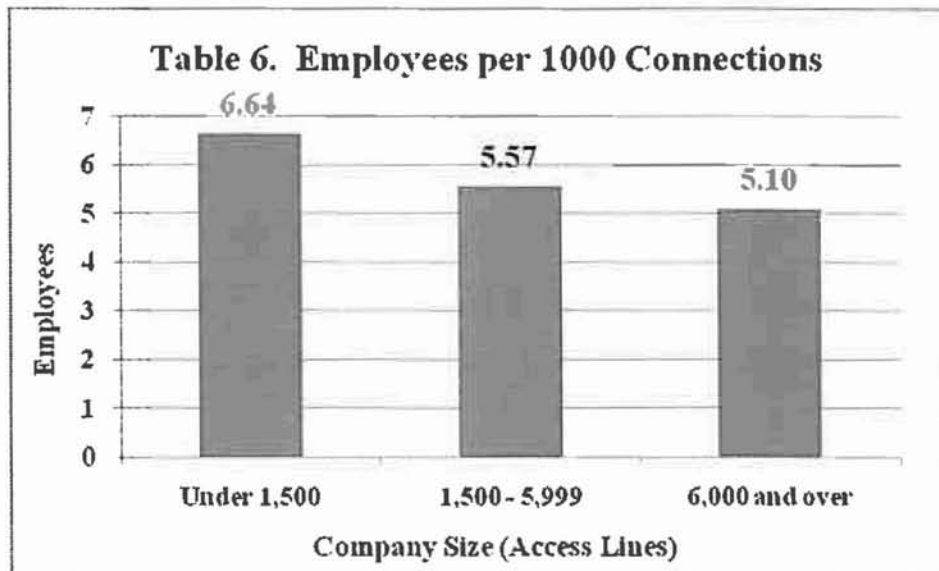
Although there is some difference in numbers of employees per 1,000 connections among the various sizes of companies in the sample, that difference is relatively small – fewer than two employees per 1,000 connections.

IV. The Regression Study

After refining the input data and plotting the relationships of the dependent variable to several independent variables, Consortia Consulting tested various independent variables, both separately and in combinations, against the dependent variable, Operating Expenses per Connection.

A. Cost Relationships Found within the Telergee Survey Data

The data from the companies in the Telergee Survey used in this analysis produced a variety of interesting results.

- An inverse relationship exists between a company's customer density and its operating expenses, meaning that more sparsely populated companies have higher operating expenses per customer than do more densely populated companies. This relationship is generally consistent with results of the Nebraska Companies' analysis of fiber-to-the-

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home (FTTH) capital expenditures,[12] which showed that linear density explained approximately 85% of the variation in the cost of FTTH construction.

- In this analysis, sensitivity among variables is somewhat more complex than in the FTTH study because variables other than density can be shown to be statistically significant when, in fact, these variables may be simply showing the relationship of density to operating cost per connection. Specifically, a variable such as Relative Employee Count also represents density, as it requires more employees per connection to serve sparsely populated areas.

- Other independent variables – Median Home Value by State, Net Wireline Plant and Company Size – improved results even further, as might be expected. Median Home Value by State is a reflection of the differences in each state's cost of living. As the FCC stated in the NPRM, Net Wireline Plant per Line is "indicative of, for example, more employees to operate and maintain operations." Company Size is important because the larger the company, the lower the cost per line. The FCC also identified the Company Size variable "as an indicator of billing and customer care costs."[13]

B.   **Results of the Regression Study to Date**

Once the independent variables were identified, a multi-linear regression analysis was run to find the best combination of variables. Several possible models yielded r-squared statistics in the 0.60 to 0.70 range. Each variable in the following model was statistically significant and of the correct sign:

Operating Expense per Connection[14]=
A + B * Square Miles Served/Access Line + C * Access Lines
+ D * Employees/Connection + E * Median Home Value$_{2005}$
+ F * Net Wireline Plant/Access Line

Table 7 shows the coefficient of each variable and its associated T-statistic.

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[12] *See* Nebraska Rural Independent Companies' Capital Expenditure Study, Predicting the Cost of Fiber to the Premise, January 2011.

[13] Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, Released February 9, 2011, ¶ 203.

[14] The units of the dependent variable, Operating Expense per Connection, are thousands of dollars per connection.

Table 7. Multi-Factor Regression Coefficients

Factor	Coefficient Symbol	Coefficient	T-statistic
Constant	A	-.064348	-.850673
Square Miles Served per Access Line[15]	B	.135633	3.300278
Access Lines	C	-8.35E-6	-2.131227
Employees per Connection[16]	D	78.78816	9.804036
2005 Median Home Value	E	1.5E-6	4.045639
Net Wireline Plant per Access Line	F	.024619	1.933833

The final R-squared of the regression was .6522, which means that 65% of the variation of the operating expenses of a company can be explained by the independent variables representing a company's service area. Given additional time to analyze the data, the fit of the equation could possibly be improved.

The equation developed to estimate operating expenses is statistically designed to represent the mean operating expenses per connection. Thus, some of the companies' operating expenses would be higher and some would be lower than the statistically derived mean. Assuming the Commission were to establish a cap for operating expenses, another equation would need to be statistically developed based on the variance of the sample that is higher than the regression equation identified here. A simple percentage increase over the regression model amount is not appropriate because it does not reflect the sample variance.[17] Such a cap could be too high or too low depending on the sample data.

C. Recommended Refinements and Additions to the Regression Study

Given the limited time, resources, and access to data, the Nebraska Companies and Telergee recommend that various refinements and additions be made to the regression study in order to provide more-robust results upon which to base decisions on potential universal service support reforms.

Perhaps most apparent is the need to expand the data set of rate-of-return companies upon which the analysis is based. Supplemented by the additional companies added to the Telergee Survey sample, the data reasonably represented the geographical distribution of the nation's rate-of-return LECs. Certainly, the number of data points was a large enough sample to provide statistically valid results. Nevertheless, it is reasonable to assume that the accuracy of the results would be improved if more rate-of-return companies' data were included in the sample. If the

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[15] The access line variable includes both CLEC and ILEC access lines.

[16] The connections variable includes CLEC and ILEC access lines, as well as broadband connections.

[17] Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, Released February 9, 2011, ¶ 206.

Commission plans to move forward with this approach, the data set of participating companies should be expanded. Given their nationwide representation, the National Exchange Carrier Association (NECA) and national rural trade associations, such as the National Telecommunications Cooperative Association (NTCA), could provide and perhaps facilitate the provision of data from other companies.

Another study modification that would enhance the results is to expand the sample using a company's data from other survey years. This study was based on data from the most recently completed survey, the 2009 Telergee survey published in 2010. Thus, the study was based on a "snap shot" of results for participating companies. Results would become more representative of company expenses over the long term if data from a series of consecutive years, a minimum of three years and optimally as many as five years, were used in the regression. Use of such data would limit the influence of abnormalities in a company's operating expenses that may have occurred in a particular calendar year due to exceptional circumstances. In any case, the data would need to be adjusted for cost of living changes during the period. Another use of time series data would be to test the stability of the regression model over time. Specifically, by using another year's data, the proposed model could be tested to see if the same structure would yield an acceptable r-squared.

Finally, as noted above, another important refinement that ultimately must be addressed is inclusion of middle-mile transport costs in determination of expenses eligible for USF cost recovery. As rural customers demand higher broadband speeds and consume greater bandwidth, rate-of-return companies have had no choice but to incur additional expenses to meet that demand by leasing middle-mile transport and backbone facilities from third-party providers. Under today's rate-of-return regime, such broadband-related costs are not recoverable from universal service since broadband access to the Internet is not a supported service. Given that the Commission is seeking to evolve the federal USF to a broadband environment, inclusion of middle-mile costs in the analysis of operating expenses will be imperative. Sponsors of this study urge the Commission to commence a review of rate-of-return carriers' middle-mile expenses with an eye to the future when increased speeds and increased coverage to higher-cost areas is expected.

VI.   **Significance for Universal Service and Consideration of Constraints on Rate-of-Return Companies**

As the Commission considers evolving high-cost federal USF support mechanisms to explicitly support deployment and operation of broadband services in rural areas, the record in the Notice of Proposed Rulemaking is replete with comments recommending continuation of rate-of-return regulation for rural carriers.[18] The Nebraska Companies and Telergee firms

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[18] *See,* Comments of NECA, NTCA, OPASTCO and WTA ("Rural Association Comments") at p. 61; Comments of CoBank at pp. 5-7; Comments of National Association of Regulatory Utility Commissioners ("NARUC") at p. 17; Comments of Nebraska Rural Independent Companies at p. 16; Comments of Independent Telephone and Telecommunications Alliance at p. 11; Comments of Rural Broadband Alliance at p. 19; Comments of Moss Adams at p. 16; Comments of Blooston Rural Carriers at pp. 23-24; Comments of California Public Utility Commission at p. 22; Comments of Kansas Corporation Commission at pp. 31-32; Comments of Missouri Small Telephone Companies Group at pp. 5-6; Comments of ICORE Companies at p. 25; Comments of John Staurulakis, Inc. at pp. 15-16; Comments of Hill Country Telephone Cooperative at p. 5; Comments of Alexicon

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strongly concur with those parties expressing support for continuation of rate-of-return regulation, as they and their client companies understand firsthand the reality that most markets served by rural companies cannot generate sufficient revenues to justify investments in broadband infrastructure and meeting carrier-of-last-resort voice service obligations without sufficient universal service support. The Commission has expressed concerns about rate-of-return regulation not being an efficient use of public funding and although some disagree with this view, the Commission has made it clear that the concerns must be addressed. The Commission articulated concerns include the following:

- Rate-of-return regulation does not provide incentives for controlling capital and operating costs.[19]
- Support is not distributed among high-cost carriers in a way that maximizes overall consumer benefits.[20]
- More support is provided in some areas than a carrier needs to achieve the goal of reasonably comparable services at rates that are affordable and reasonably comparable to those in urban areas.[21]

By addressing the above concerns with a series of proposed reforms including limits on reimbursable operating and capital costs,[22] the Commission has proposed to continue rate-of-return regulation in the near term, and is investigating doing so in the long term after establishment of the CAF.[23] The results of this regression study appear to provide conclusive evidence that rate-of-return companies' operating expenses can be predicted with reasonable accuracy with a regression equation developed using actual company data. Since a regression equation can provide the Commission with guidance on constraining *total* operating expenses, excluding depreciation, property tax, and middle-mile costs, limitations on any specific category of expenses, such as corporate operations, is inappropriate.

Consulting at pp. 55-56; Comments of Fred Williamson & Associates, Inc. at p. 11; Comments of SureWest Communications at p. 14; Comments of Pine Telephone Systems, Inc. at p. 2; Comments of Cambridge Telephone Company at pp. iv-v; Comments of State Independent Telephone Association at p. 5; Comments of Rural Telephone Companies-Idaho at p. v; Comments of Rural Telephone Companies-Nevada at p. v; Comments of Albion Telephone Company at p. v, In the Matter of Connect America Fund, WC Docket No. 10-90, A National Broadband Plan for Our Future, GN Docket No. 09-51, Establishing Just and Reasonable Rates for Local Exchange Carriers, WC Docket No. 07-135, High-Cost Universal Service Support, WC Docket No. 05-337, Developing an Unified Intercarrier Compensation Regime, CC Docket No. 01-92, Federal-State Joint Board on Universal Service, CC Docket No. 96-45, Lifeline and Link-Up, WC Docket No. 03-109, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, FCC 11-13 (filed Apr. 18, 2011).

[19] Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, Released February 9, 2011, ¶ 162.

[20] Id.

[21] Id.

[22] Id. ¶¶ 201-206.

[23] Id. ¶¶ 448, 449.

A company's customer density per square mile is a significant predictor of operating expenses, and it may be appropriate, as the Commission has posited,[24] that a more simple formula (perhaps even one relying solely on density) may be preferable to a more complex formula. To test and improve regression results, it would be beneficial to expand the number of participants and geographic distribution of the sample, as well as seek data over a series of years. Such analyses would shed greater light on whether an equation based on density alone is adequate or whether a combination of variables better predicts operating expenses.

Finally, the Nebraska Companies recommend that the Commission investigate a combination the following three methodologies for determining "safe-harbor" constraints on rate-of-return companies' costs. [25]

- Limitations on operating expenses based on regression analyses as recommended herein.
- Limitations on future broadband capital expenditures based on the regression analysis submitted by the Nebraska Companies and VPS.[26]
- Limitations on the pace by which companies can replace loop plant based on the plant's depreciable life. [27]

The totality of these methodologies, all based on rural companies' costs, directly addresses the Commission's concerns with rate-of-return regulation, provides assurances to Congress that federal USF is efficiently distributed today and in the future, and gives rural companies and their customers reasonable assurances that the costs of existing and future investments in broadband services will be recoverable.

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[24] Id. ¶ 206.

[25] These recommendations continue to be made with the following caveats: (1) that existing reasonable investments made by rate-of-return companies under existing rules are recoverable from federal USF; and (2) that companies with extraordinary circumstances not accounted for in a regression analysis are permitted to seek a waiver from USF constraints on an expedited basis.

[26] The sponsors of this analysis continue to seek expansion of the number of fiber-to-the-home projects included in the study sample, as requested by the Commission staff. *See* ex parte filed by the Nebraska Companies, April 21, 2011.

[27] *See* "Proposal for Allowed Loop Plant Capital Expenditures, For High-Cost funding of Future Loop Plant Investments," prepared by Vantage Point Solutions. Comments of the National Exchange Carrier Association, Inc.; National Telecommunications Cooperative Association, Inc.; Organization for the Promotion and Advancement of Small Telecommunications Companies; and Western Telecommunications Alliance. filed April 18, 2011.

Executive Summary

The 2010 TELERGEE Benchmarking Study includes 2009 year-end financial data from 221 rural incumbent local exchange carriers (ILECs) nationwide. Most participants in the study are clients of TELERGEE member CPA firms. Each TELERGEE firm supplies the financial statements that go into producing the benchmarks presented here. For confidentiality purposes, only the TELERGEE firm who supplied the information knows the names of the individual entities. The identity of each participant is removed before the data is centrally processed.

We have presented four classifications of ILECs:

- Cooperatives on average schedule
- Cooperatives on cost study
- Corporations on average schedule
- Corporations on cost study

Information about the non-regulated operations of our ILEC participants is also included in the study, as well as information about staffing and payroll.

We calculated nationwide benchmarks, regardless of a company's organizational structure (Cooperative or Corporation) and type of earning mechanism (Cost Study or Average Schedule). These nationwide benchmarks also include information about standard management practices, customer service options, and current and planned service offerings. Also included is a section that displays select financial information for medium-sized, publicly-traded U. S. telecom companies.

NUMBER CRUNCHING

The benchmarks in the study were developed using the median as the average. This eliminates the influence that values in an "unusual" financial statement would have on an average. It is important to understand that the median represents the middle 50% of all the companies in a sample. Using the median more accurately reflects the ratio values than would a straight averaging method.

The study contains composite financial data. Financial statements for each classification are shown in common size, accompanied by widely used financial ratios. Balance sheets and income statements are shown in common size, with each item a percentage of total assets and revenues, respectively. Common size statements are computed for each individual company in a classification, and all the figures are then added and the median company is identified for each benchmark.

The financial ratios are calculated from the composite financial statement data of each participant and the median company is identified. Totals do not add to the sum of various measurements because each line item is the median, a unique company representing the respective benchmark.

For example, the components of current assets include cash, receivables, inventory, and other current assets. The median for each of those line items is calculated and shown in the study. The median for total current assets is also calculated, but represents the median company for that benchmark, not the total of the component line items.

THE SCORECARD

As a supplement to the TELERGEE Benchmarking Study, find out how your company measure up against other companies like yours with the TELERGEE Benchmark Scorecard. Your area TELERGEE member CPA firm can provide your company with information on the "five-number distribution," (median, upper and lower quartiles, and minimum and maximum values), for each benchmark. The TELERGEE Benchmark Scorecard shows your company's individual benchmarks compared to the five-number distribution of the classification your company is in, as well as the national averages. See a sample TELERGEE Benchmarking Scorecard on the following page.

OUR SPONSORS

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